SECTION VII.—WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF THE MONTH.

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PRESSURE.

The distribution of the mean atmospheric pressure over the United States and Canada and the prevailing direction of the winds are graphically shown on Chart VII, while the average values for the month at the several stations, with the departures from the normal, are shown in Tables I and III.

For the month as a whole the mean barometric pressure was below the normal in the extreme southern portions of California and Arizona and throughout all sections east of the Mississippi, except the western portion of Tennessee and in Alabama, Mississippi, and the extreme eastern Canadian provinces. For all other sections it was above the normal. The positive departures were generally small, the greatest values appearing in the north Pacific and the central Plains States. Likewise the negative departures were not marked, they being greatest in the region of the Great Lakes and in the New England States.

The month opened with relatively high pressure throughout practically all sections of the country, except in the region of the Great Lakes, most of Texas, Nevada, and California, where it was near or somewhat below normal. A succession of rather marked low-pressure areas moved across the southern half of the country and pressure below the normal predominated throughout the south and southeast generally until near the end of the first decade, when a rather extensive high area moved in from the northwest and overspread the south-central and southeastern districts.

Pressures above the normal predominated over most northern sections during the greater part of the first decade. However, toward the latter part of the decade and throughout most of the second decade, a number of rather extensive low-pressure areas crossed the northern and central portions of the country, while in the south relatively higher pressure obtained throughout the greater part of the second decade.

During the first few days of the third decade the pressure was generally low throughout most central and eastern districts, after which relatively high pressures overspread most sections, continuing during the greater part of the remainder of the month. The month closed with high pressure over practically the whole country, except from western Texas to southern California, where it was below the normal.

The distribution of highs and lows was generally favorable for westerly and northwesterly winds in the New England and Middle Atlantic States, the Lake region, the Missouri and upper portions of the Mississippi and Ohio Valleys, southerly and southwesterly along the South Atlantic coast and in the western Gulf States. Elsewhere variable winds prevailed.

TEMPERATURE.

The temperature during the first decade was much lower than the normal in the central part of the country. It averaged 12 degrees a day below the normal in the central Mississippi Valley, while it was slightly above normal in much of the region to westward of the Rocky Mountains. During this period the line of freezing temperature extended to the northern part of the Gulf States and it was only slightly above zero in the extreme north-central part of the country. Temperatures within 1 degree of the lowest ever recorded during the month of April occurred in several of the Gulf States. On the other hand, temperatures close to the highest ever recorded during the first decade of April occurred in portions of Idaho, Wyoming, and Arizona.

During the latter part of the decade, temperatures near the freezing point occurred throughout the great Central Valleys with heavy and killing frosts almost to the Texas coast as well as in Arkansas, northern Louisiana and eastward to southern Georgia, and light frosts as far south as northern Florida.

During the early part of the second decade the temperature was above normal in all central districts, while frosts occurred in portions of the north Pacific States and freezing weather prevailed in the Mountain States. During the next few days considerably cooler weather overspread the Central Valleys and extended to the Atlantic, with temperatures below the normal, and frosts in the Ohio Valley. The decade closed with generally warmer weather in the eastern part of the country, and with temperatures below the normal west of the Mississippi, while freezing weather obtained in North Dakota, Montana, the Rocky Mountain States, and parts of Oregon.

The third decade opened with freezing weather in the northern Plains States and as far south as central Nebraska, and frosts extended into the Ohio Valley and Lake region during the next few days, with cool weather generally in most eastern districts. Temperatures below the seasonal average prevailed over practically all districts east of the Rocky Mountains during the remainder of the month, with frosts in the Plains States, upper Mississippi Valley, lower Ohio Valley, and Lake region. The temperatures were somewhat above normal in the central and south Pacific Coast States.

For the month as a whole the mean temperature was above the normal in the region of the Great Lakes, northern Pennsylvania, New York, the northern portions of the New England States, along the Atlantic seaboard from New Jersey to northern Florida, and from the Rocky Mountain region westward to the Pacific. Elsewhere it was below the average.

PRECIPITATION.

The precipitation during the first decade of April was very unevenly distributed. The heaviest falls occurred in west-central Florida and from western Texas to

southern Missouri, while over much of the upper Mississippi and Missouri Valleys, most of the Plateau, and the southern Pacific coast districts, as well as over the Rocky Mountains, southern Texas, and the central Missouri Valley, the precipitation was light.

During the first half of the second decade the precipitation was generally light, while in small areas along the south Atlantic coast and in the central Ohio Valley no rain occurred. During the latter half of the decade widespread rains fell throughout practically all the central part of the country, as well as southward to the Gulf coast, but practically no rain occurred in Florida and over large areas in the Southwest, including the southern Plateau and southern Pacific coast regions and small districts on the middle Atlantic coast.

During the early part of the third decade moderate to heavy rains occurred at many points in the central part of the country, while light rain fell in most of Florida and light to moderate falls occurred in central and southern Texas. During the latter half of the decade light rains fell in portions of Texas, the great Central Valleys, the North Pacific and northern Rocky Mountain regions, and from the Great Lakes eastward, while over large areas in the Southeast and over the south Pacific coast little or no rain fell.

For the month as a whole the rainfall was heavy from central and eastern Texas northeastward to southern Missouri, moderate to heavy in the southern portions of Alabama, Mississippi, and Louisiana, west-central Florida, southern New York, northern Pennsylvania, the southeastern portion of the New England States, and the north Pacific coast. Elsewhere it was light, with only a trace or no precipitation in much of the Southwest, including most of California.

SNOWFALL.

During the first decade the snowfall was heavy in parts of the upper Mississippi Valley, and general snows fell in the Ohio and lower Missouri Valleys, and considerable amounts occurred as far south as the middle Atlantic coast. During the last decade some snow fell in the northern part of the country, and at the close of the month much snow still remained in the high elevations of the Rocky Mountains.

GENERAL SUMMARY.

The cool weather in the central and northern parts of the country retarded the development of vegetation, and farm work was somewhat delayed in the northeastern States, while in the south and east conditions were generally favorable.

Corn planting progressed favorably, but was somewhat later than usual. The cool weather toward the latter part of the month prevented proper germination and retarded growth in some sections.

The weather was favorable for the development of winter wheat, and the preparation of the ground and the planting of spring wheat progressed satisfactorily in the southern part of the spring wheat region, while in the northern portions the work was delayed by the cold, stormy weather.

Favorable weather for work in the cotton fields prevailed generally, but it was too cool for proper germination and growth in some sections; it was also too dry in some localities.

The weather was generally favorable for meadows and pastures, except that it was too dry in California and parts of the Southeast. Truck crops in some sections were damaged by frost, and cold weather retarded their growth in the central districts, and lack of rainfall was felt in the extreme South and Southeast.

The condition of fruits was generally favorable, although some damage resulted from frost and cold weather.

LOCAL STORMS.

The following notes of severe storms have been extracted from reports of Weather Bureau officials:

Louisiana.—Destructive winds, covering small areas, occurred in the vicinity of New Orleans at about 3 a. m. on April 7, 1916. At Gentilly Terrace, a suburb of the city, three houses were totally destroyed, three were badly damaged, and seven others were more or less damaged. The débris was carried forward in a straight line, the wind blowing from the southwest to northeast. The greatest width of the storm was about 250 feet and the length of its path was approximately one-fourth of a mile. About 1 mile a little south of east of Gentilly Terrace, a three-story building, which served as an orphan asylum for colored children, was wrecked in a peculiar manner. The upper story settled slowly down upon the two lower stories, which were compressed into a space of a few feet, but the upper story was but slightly damaged and the children in it escaped unhurt. Nearly 4 miles southeast of Gentilly Terrace, the roof of an elevator was blown off. At 2 a. m., an hour before the storm at Gentilly Terrace, there were high winds in the vicinity of Lutcher, about 30 miles west of New Orleans, where several houses were unroofed and two buildings destroyed. In the suburbs of New Orleans two persons were killed and four were wounded. In the vicinity of Lutcher one person was injured.

Alabama.—About 4.40 p. m., April 20, 1916, a tornado swept over Pine Grove, a small village 6½ miles west-northwest from Mobile. The track of the storm extended from south-southwest to north-northeast, and was about 80 feet wide and 3,000 feet in length. At its beginning, a frame building was lifted bodily and its parts carried away. Of the contents of the house, the piano was deposited 125 feet southeast of where the house stood; the only inmate, a woman, was killed and her body carried 300 feet to the north; the kitchen range was carried 500 feet to the north, a bedquilt 3 miles north, and a tornado insurance policy 7 miles northeast. Another house 30 feet to the northeast and a garage 200 feet east-southeast were demolished, and a house 300 feet east-northeast was moved 2 feet on its foundation. Except for the carrying away of the metal roof of a barn, no other material damage was done until a point 1,000 feet from the first building destroyed was reached, where a house occupied by a woman and two children was razed and the roof, walls, and contents were deposited about 80 feet to the north. The occupants were rendered unconscious but not seriously injured. The storm then entered a forest, where prostrate trees mark its path.

Average accumulated departures for April, 1916.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	°F.	°F.	°F.	Ins.	Ins.	Ins.	Per ct.		Per ct.	
New England	43.3	−0.4	− 4.3	3.19	−0.10	−2.50	6.6	+1.1	76	+ 3
Middle Atlantic	50.4	−0.3	− 0.1	2.44	+0.20	−1.40	6.2	+1.0	68	+ 1
South Atlantic	61.0	−0.2	+ 6.6	1.88	−1.60	−7.30	4.3	−0.3	64	− 8
Florida Peninsula	71.0	−2.4	− 1.1	1.23	−0.70	−5.10	4.0	+0.2	73	− 1
East Gulf	63.3	−1.3	+ 4.5	2.73	−1.30	−8.50	4.3	−0.6	66	− 4
West Gulf	63.5	−2.2	+ 8.2	3.63	+0.10	−2.40	5.3	+0.2	71	− 1
Ohio Valley and Tennessee	53.3	−1.4	+ 0.3	2.34	−1.20	−1.10	6.7	+1.4	67	+ 2
Lower Lakes	45.5	+0.4	− 2.4	2.34	0.00	+0.60	6.5	+0.8	75	+ 5
Upper Lakes	41.8	+1.0	− 2.6	2.59	+0.30	+0.90	6.3	+0.8	76	+ 3
North Dakota	39.7	−1.0	−10.9	1.52	−0.40	+0.50	5.6	+0.3	60	− 8
Upper Mississippi Valley	49.3	−1.2	+ 0.5	2.46	−0.50	+0.60	4.9	−0.3	68	0
Missouri Valley	48.8	−1.6	+ 0.5	2.35	−0.50	−2.80	6.3	+0.7	63	− 2
Northern slope	43.4	+0.6	− 3.8	0.82	−0.80	−0.70	4.5	−0.6	61	+ 3
Middle slope	50.5	−3.2	+ 1.8	2.60	−0.40	−0.80	6.1	+1.5	66	+ 9
Southern slope	60.2	−2.2	+12.5	2.31	+0.40	−0.80	4.3	−0.4	48	− 7
Southern Plateau	58.6	−0.8	+ 3.8	0.52	0.00	+1.80	2.6	−0.2	40	+10
Middle Plateau	50.3	+1.4	+ 4.9	0.38	−0.80	+0.60	4.1	−0.4	42	− 3
Northern Plateau	49.8	+0.8	− 2.7	0.97	−0.40	+1.10	4.5	−0.7	53	− 4
North Pacific	49.6	+0.5	− 3.9	3.33	+0.10	+5.50	6.6	+0.4	77	+ 6
Middle Pacific	56.3	+2.7	+ 4.8	0.36	−1.70	+1.10	2.6	−1.8	63	− 9
South Pacific	61.0	+3.0	+ 4.8	0.06	−1.00	+5.20	2.5	−1.5	69	+ 1

WEATHER CONDITIONS ON THE NORTH ATLANTIC DURING APRIL, 1915.

The data presented are for April, 1915, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month. Chart IX (XLIV–54) shows for April, 1915, the averages of pressure, temperature, and the prevailing direction of the wind at 7 a. m., 75th Meridian time, together with the locations and courses of the more severe storms of the month.

PRESSURE.

The average pressure for the month over the ocean as a whole was somewhat above the normal. The Azores high, with a crest of 30.3 inches, was not far from its usual position, while the Continental HIGH, crest of 30.1 inches, was central near Asheville, N. C., extending as far east as the 74th meridian. The isobar of the lowest mean pressure, 29.7, inches, was about 5 degrees north of its usual position as it appears on the Meteorological Chart of the North Atlantic Ocean showing normal pressure for April.

North of the fiftieth parallel the pressure was much lower during the first decade of the month than in the last 20 days, and in the regions between the sixtieth and sixty-fifth parallels, and the 1st and 20th meridians, west longitude, the mean pressure for the first 10 days ranged between 29.25 and 29.34 inches, while the average for the month was from 29.69 to 29.72 inches. The same conditions held true over the greater part of the ocean, although in the area covered by the Azores HIGH the mean pressure for the first decade was greater than that for the month.

STORMS.

North of the fiftieth parallel most of the heavy winds occurred in the first half of the month, while south of that line they were fairly well distributed throughout the month. The greatest number of gales observed in any 5-degree square was 7, a percentage of 23, and occurred in three different localities. Over the ocean as a whole the number of gales was slightly above the average, although there were a few exceptions.

On March 31 a LOW (I on Chart IX) of 28.60 inches was central near St. Johns, Newfoundland, winds of over 60 miles an hour prevailing near its center, while several vessels reported strong gales between St. Johns and the 30th Meridian. This disturbance moved in a southerly direction and on April 1 was near latitude 39°, longitude 55°, the barometer having risen to 29.26 inches while the wind still retained its force. The storm then recurved toward the northeast, and increasing in its rate of movement was near latitude 51°, longitude 37°, on the 2d. The barometer then began to rise and the storm area to increase, while its intensity decreased, although a number of vessels south of the center encountered westerly and southwesterly winds of gale force. The LOW continued in its northeasterly course with a nearly constant rate of movement, and on the 3d the approximate position of the center was latitude 49°, longitude 20°, although it was impossible to locate it accurately on account of the lack of observations. The barometer had fallen, however, to 28.90 inches, and westerly and southwesterly winds of over 60 miles an hour, accompanied by hail, were reported. It evidently continued on its northeasterly course, as evidences of its presence could still be seen on the 4th, although it was impossible to plot the center. On the 2d there was a large and rather shallow area of low pressure (II on Chart IX) central near Habana, Cuba. The winds ranged from light to moderate, with a minimum barometer reading of 29.80 inches. This LOW traveled swiftly in a northeasterly direction, gaining in intensity, and on the 3d was about 4 degrees east of Hatteras, winds of from 50 to 65 miles, accompanied by hail and snow, prevailing within the storm area. The storm continued in its northeasterly movement, parallel to the coast, and on the 4th the center was about 5 degrees east of Nantucket, the conditions of wind and weather remaining about the same as on the day before, although the storm area was of greater extent, winds of gale force being reported as far east as the 50th Meridian. From this point the area of low pressure spread out to such a degree that it was impossible to locate its center. On the 5th, winds of gale force prevailed over the central portion of the northern sailing routes and also near latitude 58°, longitude 13° west.

Between April 6 and 9 an area of low pressure covered a large portion of the North Sea and the adjacent mainland of Europe, gales being reported during the first three days of that period, but the wind moderated on the 9th. From the 10th to the 16th no serious disturbances were reported over the North Atlantic and moderate to light winds prevailed over the entire area.

On April 17 a LOW (III on Chart IX) appeared about 3 degrees west of Bermuda. Two vessels near the center reported north and northeast winds of from 40 to 50 miles an hour, while between the 68th meridian and the American coast light airs and clear weather prevailed. This disturbance moved in a northeasterly direction, increasing in extent and violence, and on the 18th was near latitude 37°, longitude 63°, strong gales of over 60 miles an hour being reported by two vessels. While the storm covered a larger territory than on the previous day, it was still of limited extent, as only moderate winds were reported from the waters adjacent to the American coast. The LOW continued in its northeasterly course and on the 19th was near latitude 40°, longitude 62°, with gales pre-